

## ABSTRACT OF THE DISCLOSURE

A method and apparatus for tracing an edge contour of an object in three dimensional space is provided. The method and apparatus is utilized in a computer vision system that is designed to obtain precise dimensional measurements of a scanned object.

5 In order to save focusing time during an automatic tracing measurement, multiple images may be collected and saved for a number of Z heights for a particular position of the XY stage. These saved images can later be used to calculate a focal position for each edge point trial location in the selected XY area rather than requiring a physical Z stage movement. In addition, a Z height extrapolation based on the Z heights of previous edge  
10 points can significantly speed up the searching process, particularly for objects where the Z height change of a contour is gradual and predictable.

GSF:bl